REMARKS

Applicants appreciate the thorough examination of the application that is reflected in the Office Action dated January 30, 2004. Applicants thank the Examiner for the courtesies extended during the telephone interview of March 23, 2004.

Claims 1-27 are pending in the application. Applicants respectfully request reconsideration of this application.

Claims 1 and 18

The Office rejects claims 1-3, 6-17, 19-22 and 24–27 under 35 U.S.C. §102(b) as being anticipated by Keskitalo et al. (U.S. Patent No. 5,920,553).

Applicants respectfully traverse these rejections for at least the following reasons.

In rejecting claim 1, the Office cites col. 5, lines 5-53 of the Keskitalo reference, which discusses that:

> Due to the above-mentioned reasons, the receiver of the mobile station can receive different frames from the base stations simultaneously. This should be taken into account in the combining process. This situation is illustrated in FIGS. 4a and 4b. FIG. 4a shows the frames received by the mobile station from different base stations. The frame 40a, 40b containing signaling information is received in a different frame from different base stations. **Since the frames are different, the information contained by them would be lost if the mobile station tried to combine them as such**. In the method of the invention, a frame is provided with an identifier on the basis of which a mobile station can identify the type of the frame. The indication of the frame identifier must occur before the signal-combining block 34. The indication can be carried out, for instance by means provided in connection with each rake branch, these means detecting one of the predetermined bit sequences or symbols in the frame. **Thus, if the combiner 34 of the mobile station observes that the frames received simultaneously at different branches are different, it will not try to combine them**. The combiner of the receiver routes the frames to destinations in accordance with their frame identifiers. Speech frames are applied to the speech decoder and signalling frames to protocol layers, where the termination of the LAPDm protocol connection is.
>
> The frames containing the same signalling information can thus arrive nonsimultaneously at the receiver. According to a preferred embodiment of the invention, **if the frame received first is successfully decoded**, the frame which arrives later and which contains the same information can be **discarded as useless**. This takes place on the basis of the link layer control via the control signal 37. Correspondingly, **if the signalling frame arrived first** at the receiver is found to be **defective**, it can be **discarded** on the basis of the link layer control when a second frame arrives.

> The combining means 34 can be controlled from an upper link layer also in such a manner that priority is given to the frames of a certain base station. The priority can be based on the received signal strength, for instance.
>
> Another advantage of the method of the invention is that if a mobile station receives at different times the frames which contain signalling information and which are transmitted by the base stations, the reception of user data is not interrupted because of the signalling, because the signalling frame and the data frame can be processed independently of each other at the same time. In a normal case, the transmission of a signalling frame requires the space of one data frame in the frame structure. (Emphasis added.)

Claim 1 relates to a method, in a wireless communication system, for selectively combining a plurality of received transmissions to recover a message comprised of a plurality of frames. Claim 1 requires:

> processing each of the plurality of transmissions separately to recover the message; and
>
> if the message cannot be recovered error-free from a single transmission,
>
> determining ***erased frames*** in a message recovered from a first transmission,
>
> determining ***good frames*** recovered from remaining ones of the plurality of transmissions,
>
> forming at least one combined message, wherein ***each combined message includes*** a particular ***combination of good frames substituting for the erased frames***, and
>
> ***checking each combined message*** to determine whether it is good or erased. (Emphasis added.)

Claim 1 requires that "*each combined message includes* a particular *combination of good frames* ***substituting for the erased frames***," as required by claim 1. On the other hand, the Keskitalo reference teaches that "[i]f the frame identifiers of the frames received simultaneously via several paths are similar, the frames are combined, but if the frame identifiers are different, the frames are not combined." (See Abstract.) Kestkitalo goes on to discuss that "if the combiner 34 of the mobile station observes that the frames received simultaneously at different branches are different, it will not try to combine them." Thus, Keskitalo relates to combining frames that have similar frame identifiers. However, the Keskitalo reference does not teach or even suggest the concept of a "combined message" that includes a combination of "good frames ***substituting for the erased frames***," as required by claim 1.

Applicants submit that the cited references fail to teach or suggest "***checking each combined message*** to determine whether it is good or erased," as required by claim 1. The Office cites the Abstract of the Keskitalo reference as teaching this limitation. However, the Abstract of the Keskitalo reference actually teaches:

> A base station equipment, mobile station and data transmission method in a digital CDMA cellular radio network, in which base stations communicate with mobile stations located in an area. Each mobile station can have a duplex connection with more than one of the base stations simultaneously. Signals transmitted from more than one of the base stations can be combined in a respective mobile station. **A signal received from a mobile station in more than one of the base stations can be combined in a base station controller**. In the network, traffic channel transmission is carried out by using a predetermined frame structure. Cellular network frames of different types are transmitted between respective ones of the base stations and the mobile stations over radio paths. To simplify the structure of the base station equipment, the type of frame being transmitted is indicated by a predetermined frame identifier. **If the frame identifiers of the frames received simultaneously via several paths are similar, the frames are combined, but if the frame identifiers are different, the frames are not combined**. (Emphasis added.)

Contrary to the Office's assertion, the Abstract of the Keskitalo reference does not even hint at the concept of "***checking each combined message*** to determine whether it is good or erased," as required by claim 1.

Applicants submit that the Alanara reference is similarly deficient.

For at least the foregoing reasons, Applicants submit that claim 1 is patentable of over the cited references. In addition, Applicant respectfully submits that dependent claims 2-17 are separately patentable at least by virtue of their dependency from independent claim 1, and also because those claims recite additional features that are not taught or suggested by the cited references. Applicants submit that claim 18 is patentable of over the cited references for at least the same reasons, and also because claim 18 recites additional features that are not taught or suggested by the cited references.

Claims 19, 26 and 27

The Office rejects claims 1-3, 6-17, 19-22 and 24–27 under 35 U.S.C. §102(b) as being anticipated by Keskitalo et al. (U.S. Patent No. 5,920,553), and claims 4, 5, 18 and 23 under 35

U.S.C. §103(a) as being unpatentable over Keskitalo in view of Alanara (U.S. Patent No 6,286,122).

Claim 27 relates to a receiver apparatus in a wireless communication system. The receiver apparatus comprises:

> means for processing a plurality of signal instances in a received signal to provide a plurality of symbol streams, wherein each symbol stream corresponds to a respective received transmission included in the received signal;
>
> means for decoding each of the plurality of symbol streams separately to recover a respective message comprised of a plurality of frames;
>
> means for detecting each frame in each recovered message as either a good frame or an erased frame;
>
> means for detecting each recovered message as either a good message or an erased message; and
>
> means for forming at least one combined message, if a message cannot be recovered error-free from a single symbol stream, wherein ***each combined message includes a particular combination of good frames substituting for erased frames in the message recovered from a first symbol stream, and wherein each combined message is detected to determine if it is a good message.*** (Emphasis added.)

For at least the reasons discussed above with respect to claim 1, Applicants submit that the cited references fail to teach or suggest "each combined message includes a particular combination of good frames substituting for erased frames in the message recovered from a first symbol stream, and wherein each combined message is detected to determine if it is a good message," as required by claim 27. Thus, Applicants submit that claim 27 is patentable of over the cited references.

Applicants submit that claims 19 and 26 are patentable of over the cited references for at least the same reasons, and also because claims 19 and 26 recites additional features that are not taught or suggested by the cited references. In addition, Applicant respectfully submits that dependent claims 20-25 are separately patentable at least by virtue of their dependency from independent claim 19, and also because those claims recite additional features that are not taught or suggested by the cited references.

REQUEST FOR ALLOWANCE

In view of the foregoing, Applicants submit that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

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